

REMARKS

This responds to the Final Office Action mailed on December 10, 2008.

Claims 1, 8, 12, 13, 52, 62, 63 and 67 are amended, no claims are canceled, and no claims are added; as a result, claims 1-13, 52, 53 and 60-70 remain pending in this application.

§ 103 Rejection of the Claims

Claims 1-4, 8-13, 60-61, 63, and 67 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,403,441 B1 to Takehiro *et al.* (hereinafter, "Takehiro") in view of U.S. Patent No. 5,489,548 to Nishioka *et al.* (hereinafter, "Nishioka"). Applicants disagree with the foregoing stated grounds of rejection and desire to further clarify various distinctions over the cited art. Reconsideration of the present application is therefore requested in light of the present amendment and following remarks.

The Examiner has cited Nishioka in combination with Takehiro in rejecting the foregoing claims. Specifically, the Examiner acknowledges that Takehiro fails to disclose that a support surface extends into a recess formed in a substrate assembly. Accordingly, the Examiner has cited Nishioka for allegedly disclosing this teaching.

With reference now to Figure 14 of Nishioka, the Examiner cites the disclosure of a barium strontium titanate (BST) layer 44 that is positioned on a platinum layer 42 as corresponding to the presently claimed plurality of high-k dielectric layers, and supporting surface, respectively. Applicants fail to find any disclosure in Nishioka that the plurality of high-k dielectric layers may be positioned between the supporting surface, and an electrode layer.

Turning now to the claims, differences between the claim language and the applied art will be specifically pointed out. Claim 1, as amended, recites in pertinent part: "A substrate assembly, comprising...a support surface extending into a recess formed in the substrate... *a conductive layer spaced apart from the support surface and extending into the recess...and... a plurality of high-K dielectric layers positioned between the support surface and the conductive layer...*" (Emphasis added). The applied combination does not disclose or suggest this. Instead, Nishioka discloses a BST layer 44 that overlies a platinum (Pt) layer 42. Claim 1 is therefore allowable. Claims depending from claim 1 are also allowable, based upon the allowable form of the base claim and based further upon the additional limitations recited in the dependent claims.

Claim 8, as amended, recites in pertinent part: “A capacitor dielectric, comprising... a first high-K capacitor dielectric comprising a metallic element... a second high-K capacitor dielectric comprising said metallic element... *wherein an oxide present in the first high-K dielectric layer and the second high-K dielectric layer is not diffused into a support surface that extends into a recess that supports the first high-K dielectric layer and the second high-K dielectric layer, and a conductive layer spaced apart from the support surface and extending into the recess, wherein the first high-K capacitor dielectric and the second high-K capacitor dielectric abut the support surface and the conductive layer.*” (Emphasis added). Again, the cited combination does not disclose or suggest this. Nishioka discloses, at most, a BST layer 44 that overlies a platinum (Pt) layer 42. Nishioka fails to disclose a conductive layer opposite the support surface, and that the first high-K capacitor dielectric and the second high-K capacitor dielectric abut the support surface and the conductive layer. Claim 8 is allowable. Claims depending from claim 8 are also allowable, based upon the allowable form of the base claim and based further upon the additional limitations recited in the dependent claims.

Claim 12, as amended, recites in pertinent part: “A capacitor dielectric, comprising... a first high-K capacitor dielectric comprising a metallic element... a second high-K capacitor dielectric comprising said metallic element and contacting said first high-K capacitor dielectric... *wherein the first high-K capacitor dielectric manifests a greater oxidation than would an equivalent thickness of the second high-K capacitor dielectric, a support surface extending into a recess that supports the first high-K dielectric layer and the second high-K dielectric layer that remains substantially free of the oxides... and... a conductive layer spaced apart from the support surface and extending into the recess, wherein the first high-K capacitor dielectric and the second high-K capacitor dielectric abut the support surface and the conductive layer.*” (Emphasis added). Nishioka fails to disclose a conductive layer spaced apart from a support surface, and that the first high-K capacitor dielectric and the second high-K capacitor dielectric abut the support surface and the conductive layer. Claim 12 is allowable. Claims depending from claim 12 are also allowable, based upon the allowable form of the base claim and based further upon the additional limitations recited in the dependent claims.

Claim 13, as amended, recites in pertinent part: “A capacitor structure, comprising... a first electrode layer extending into a recess in a substrate...*a dielectric layer disposed over said first electrode layer...and...a second electrode layer disposed over said dielectric layer and extending into the recess.*” (Emphasis added). The cited combination simply fails to disclose or suggest this. Claim 13 is also allowable. Claims depending from claim 13 are further allowable, based upon the allowable form of the base claim and based further upon the additional limitations recited in the dependent claims.

Claim 62, as amended, recites in pertinent part: “A capacitor dielectric, *comprising a plurality of capacitor dielectric layers positioned between a supporting surface extending into a recess and an electrode layer extending into the recess...*” (Emphasis added). Claim 63, as amended, also recites in pertinent part: “A capacitor dielectric, *comprising a plurality of capacitor dielectric layers disposed between a supporting surface extending into a recess and an electrode layer extending into the recess...*” (Emphasis added). Again, as described in greater detail above, the applied art simply fails to disclose or suggest this. Claim 62 is also allowable. Claim 63 is similarly also allowable. Claims depending from claim 63 are further allowable, based upon the allowable form of the base claim and based further upon the additional limitations recited in the dependent claims.

Finally, claim 67 recites in pertinent part: “A capacitor dielectric, *comprising a plurality of capacitor dielectric layers abutting a supporting surface extending into a recess and an electrode layer extending into the recess...*” (Emphasis added). The applied combination of art simply fails to disclose, or fairly suggest this. Claim 67 is allowable over the cited combination. Claims depending from claim 67 are further allowable, based upon the allowable form of the base claim and based further upon the additional limitations recited in the dependent claims.

CONCLUSION

Applicants respectfully submit that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's representative at (612) 373-6900 to facilitate prosecution of this application.

If necessary, please charge any additional fees or deficiencies, or credit any overpayments to Deposit Account No. 19-0743.

Respectfully submitted,

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Date February 10, 2009

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being filed using the USPTO's electronic filing system EFS-Web, and is addressed to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on February 10, 2009.

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